

# SloanLED PrismBEAM

## Specifications

| Lengths         |                    | Part number     |                 | Modules per assembly |              | Lumens per assembly |              | Packaging        |
|-----------------|--------------------|-----------------|-----------------|----------------------|--------------|---------------------|--------------|------------------|
| Nominal         | Actual             | Single-sided    | Double-sided    | Single-sided         | Double-sided | Single-sided        | Double-sided | Lamps per carton |
| 18 in (0.46 m)  | 15.72 in (0.40 m)  | 701972-6WPS181  | 701972-6WPD181  | 2                    | 4            | 360                 | 720          | 8                |
| 24 in (0.61 m)  | 21.72 in (0.55 m)  | 701972-6WPS241  | 701972-6WPD241  | 3                    | 6            | 540                 | 1080         | 8                |
| 30 in (0.76 m)  | 27.72 in (0.70 m)  | 701972-6WPS301  | 701972-6WPD301  | 3                    | 6            | 540                 | 1080         | 8                |
| 36 in (0.91 m)  | 33.72 in (0.86 m)  | 701972-6WPS361  | 701972-6WPD361  | 4                    | 8            | 720                 | 1440         | 8                |
| 42 in (1.07 m)  | 39.72 in (1.01 m)  | 701972-6WPS421  | 701972-6WPD421  | 5                    | 10           | 900                 | 1800         | 8                |
| 48 in (1.22 m)  | 45.72 in (1.16 m)  | 701972-6WPS481  | 701972-6WPD481  | 6                    | 12           | 1080                | 2160         | 16               |
| 60 in (1.52 m)  | 57.72 in (1.47 m)  | 701972-6WPS601  | 701972-6WPD601  | 7                    | 14           | 1260                | 2520         | 16               |
| 64 in (1.63 m)  | 61.72 in (1.57 m)  | 701972-6WPS641  | 701972-6WPD641  | 8                    | 16           | 1440                | 2880         | 8                |
| 72 in (1.83 m)  | 69.72 in (1.77 m)  | 701972-6WPS721  | 701972-6WPD721  | 9                    | 18           | 1620                | 3240         | 16               |
| 84 in (2.13 m)  | 81.72 in (2.08 m)  | 701972-6WPS841  | 701972-6WPD841  | 10                   | 20           | 1800                | 3600         | 8                |
| 96 in (2.44 m)  | 93.72 in (2.38 m)  | 701972-6WPS961  | 701972-6WPD961  | 12                   | 24           | 2160                | 4320         | 16               |
| 108 in (2.74 m) | 105.72 in (2.69 m) | 701972-6WPS1081 | 701972-6WPD1081 | 13                   | 26           | 2340                | 4680         | 8                |
| 117 in (2.97 m) | 114.72 in (2.91 m) | 701972-6WPS1171 | 701972-6WPD1171 | 14                   | 28           | 2520                | 5040         | 8                |
| 120 in (3.05 m) | 117.72 in (2.99 m) | 701972-6WPS1201 | 701972-6WPD1201 | 14                   | 28           | 2520                | 5040         | 8                |

Dimensions W × H ..... Single-sided ..... 0.75 in × 0.81 in (19 mm × 21 mm)  
 Double-sided ..... 0.75 in × 1.27 in (19 mm × 32 mm)

Efficacy ..... 107 lm/W

Color temperature (nominal) .... 6500 K

Optimum cabinet depth ..... 8" (200 mm) optimum

Operating temperature ..... -40° C to +60° C

Protection class ..... IP66 & IP68<sup>1</sup>

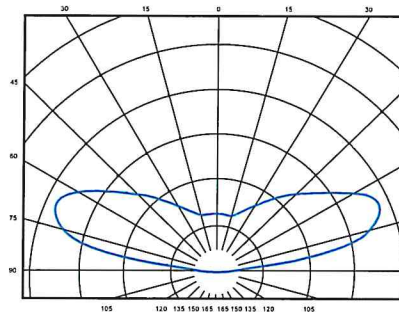
Binning ..... MacAdam Step 3

Life rating ..... >60,000 hours

Fastening ..... Fluorescent lampholders



## Luminous Intensity Distribution



1 Prism IP68 test parameters are 1.3 m submersion for 30 minutes. Do not mount in submerged application or where module will be directly exposed to prolonged flowing or dripping water.

## Accessories



### Bracket

402231-10

Optional – Sold in bags of 10.

## Power Supply Capacity

### Single-sided (12 V)

| Item description<br>(Part number)   | Power<br>output | Maximum lamps per power supply |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                    |                    |                    |
|---|-----------------|--------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|--------------------|--------------------|--------------------|
|   |                 | 18 in<br>(0.46 m)              | 24 in<br>(0.61 m) | 30 in<br>(0.76 m) | 36 in<br>(0.91 m) | 42 in<br>(1.07 m) | 48 in<br>(1.22 m) | 60 in<br>(1.52 m) | 64 in<br>(1.63 m) | 72 in<br>(1.83 m) | 84 in<br>(2.13 m) | 96 in<br>(2.44 m) | 108 in<br>(2.74 m) | 117 in<br>(2.97 m) | 120 in<br>(3.05 m) |
| 60C1 60 W [701507-60C1]<br>60W1 60 W [701507-60W1]<br>60W2 60 W [701507-60W2]<br>MODW(E) 60 W [701507-MODW(E)]<br>MOD277 60 W [701507-MOD277] | 60 W            | 16                             | 10                | 10                | 8                 | 6                 | 5                 | 4                 | 4                 | 3                 | 3                 | 2                 | 2                  | 2                  | 2                  |
| 120D1 120 W [701507-120D1]  | 120 W           | 2 × 16                         | 2 × 10            | 2 × 10            | 2 × 8             | 2 × 6             | 2 × 5             | 2 × 4             | 2 × 4             | 2 × 3             | 2 × 3             | 2 × 2             | 2 × 2              | 2 × 2              | 2 × 2              |
| Watts per assembly  |                 | 3.4                            | 5.0               | 5.0               | 6.7               | 8.4               | 10.1              | 11.8              | 13.4              | 15.1              | 16.8              | 20.2              | 21.8               | 23.5               | 23.5               |

Power Supply Capacity calculations for field cut lengths use 1.68 watts per module.

### Double-sided (24 V)

| Item description<br>(Part number) | Power<br>output | Maximum lamps per power supply |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                    |                    |                    |
|-----------------------------------|-----------------|--------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|--------------------|--------------------|--------------------|
|                                   |                 | 18 in<br>(0.46 m)              | 24 in<br>(0.61 m) | 30 in<br>(0.76 m) | 36 in<br>(0.91 m) | 42 in<br>(1.07 m) | 48 in<br>(1.22 m) | 60 in<br>(1.52 m) | 64 in<br>(1.63 m) | 72 in<br>(1.83 m) | 84 in<br>(2.13 m) | 96 in<br>(2.44 m) | 108 in<br>(2.74 m) | 117 in<br>(2.97 m) | 120 in<br>(3.05 m) |
| 24 VDC Power Supply [701895-24C]  | 100 W           | 13                             | 9                 | 9                 | 6                 | 5                 | 4                 | 4                 | 3                 | 3                 | 2                 | 2                 | 2                  | 2                  | 2                  |
| Watts per assembly                |                 | 6.7                            | 10.1              | 10.1              | 13.4              | 16.8              | 20.2              | 23.5              | 26.9              | 30.2              | 33.6              | 40.3              | 43.7               | 47.0               | 47.0               |

Power Supply Capacity calculations for field cut lengths use 1.68 watts per module.

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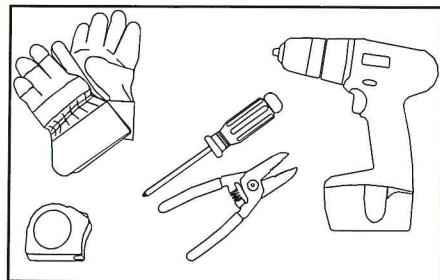


# EXHIBIT 5

# SloanLED PrismBEAM

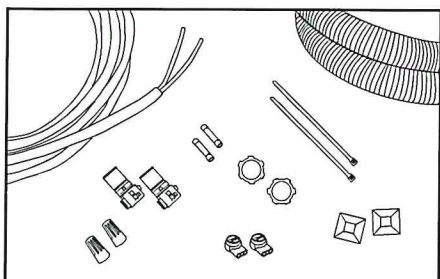
PAGE 1 OF 3

## Installation Guide for 701972-(C)WP(D,S)(X)1



### Tools required:

1. Measuring tape
2. Wire strippers
3. Gloves
4. Drill
5. Screwdriver



### Supplies required:

1. UL Listed 18 AWG (1 mm<sup>2</sup>), 2 conductor, PVC jacketed, NEC type PLTC cable (can be purchased from SloanLED® in 100-foot (30.48-meter) rolls)
2. Cable tie downs (plastic with double-sided tape for mounting)
3. 4 in (101.6 mm) nylon zip ties
4. UL Listed wire nuts (IDEAL P/N #30-072 Blue) or appropriate UL Listed electrical connectors
5. Conduit and conduit connectors (water tight if necessary)
6. 1/2 in (13 mm) trade size locknuts

**CAUTION:** Turn off power to sign before inspecting or removing existing light source. Power must remain off while installing LED product.

**ATTENTION :** Coupez l'alimentation générale du panneau avant d'intervenir ou de retirer la source lumineuse existante. L'alimentation générale doit être coupée tout au long de l'installation du kit de remplacement en LED.

**WARNING:** Use SloanLED Prism BEAM Double-sided with 100 W 24 VDC Power Supply only.

**WARNING:** Use SloanLED Prism BEAM Single-sided with 60 W 12 VDC Power Supply only.

**NOTE:** All materials removed must be disposed of in accordance with applicable local, state, and federal laws.

**WARNING check polarity:** When connecting power supply to luminaire, all connections must be RED STRIPE-TO-RED (+) and WHITE-TO-BLACK (-). Reverse polarity connections may damage LEDs and will void product warranty.

## Retrofit Installation

**Scope:** This procedure is designed to aid in installation of SloanLED PrismBEAM illumination product and power supply products. Skilled tradespeople familiar with general construction, electrical, and sign installation techniques should do the installation. Licensed electricians should provide all installation and hook-up of both primary and secondary input/outputs of power supply. All installation and hook-up should be done in accordance with all National and Local codes and permits. In no way is this document intended to construe warranty or fitness of use of products described, nor is it intended to provide safety instruction for those installing product.

Field installation of this LED retrofit kit into a sectional sign is subject to acceptance of local inspection authority. UL Classification mark on this LED retrofit kit requires kit to be installed in a UL Listed sign only.

## Remove Existing Fluorescent Tubes/Ballasts

1. Make sure power is off.
2. Remove existing fluorescent tubes, leaving fluorescent lampholders in place.
3. Any existing holes in sign that will not be used for new installation should be patched to avoid water damage. Openings smaller than 1/2 in (13 mm) in diameter may be sealed with silicone. Openings larger than 1/2 in (13 mm) in diameter require a metal patch secured by screws or rivets and sealed with silicone.
4. Have a licensed electrician disconnect and remove all ballasts. **WARNING: Ensure there is no electrical connection to lamp sockets. Continue with step 2 of new installation.**

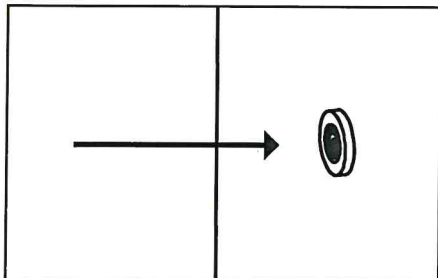


# SloanLED PrismBEAM

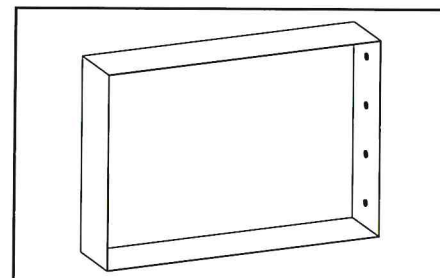
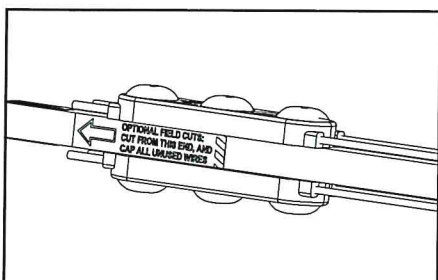
PAGE 2 OF 3

## Installation Guide for 701972-(C)WP(D,S)(X)1

### New Installation



1. Install fluorescent lampholders 12 in (305 mm) center-to-center along returns of cabinet (see Layout Guidelines on bottom of this page).



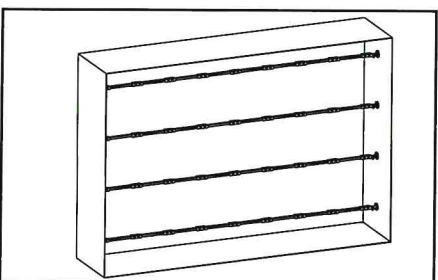
**Note:** Lamps must be mounted in an enclosed sign. This product is not suitable for immersion or direct exposure to water for extended periods of time.

2. Determine lengths and quantities of SloanLED PrismBEAM (see Power Supply capacity table on page 3).

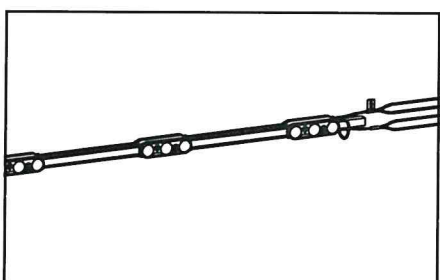
### Lamp Lengths

| Nominal      | Actual          | Nominal       | Actual           |
|--------------|-----------------|---------------|------------------|
| 18" (0.46 m) | 15.72" (0.40 m) | 64" (1.63 m)  | 61.72" (1.57 m)  |
| 24" (0.61 m) | 21.72" (0.55 m) | 72" (1.83 m)  | 69.72" (1.77 m)  |
| 30" (0.76 m) | 27.72" (0.70 m) | 84" (2.13 m)  | 81.72" (2.08 m)  |
| 36" (0.91 m) | 33.72" (0.86 m) | 96" (2.44 m)  | 93.72" (2.38 m)  |
| 42" (1.07 m) | 39.72" (1.01 m) | 108" (2.74 m) | 105.72" (2.69 m) |
| 48" (1.22 m) | 45.72" (1.16 m) | 117" (2.97 m) | 114.72" (2.91 m) |
| 60" (1.52 m) | 57.72" (1.47 m) | 120" (3.05 m) | 117.72" (2.99 m) |

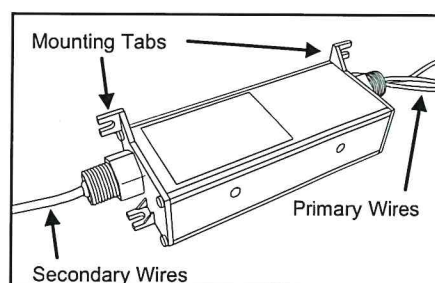
3. **Optional field cut:** If lamp needs to be shortened to a different length, measure and cut on end indicated by label, to new length according to table. Cap all cut wires. If LED module(s) interfere with cut, remove module(s) and cap cut wires.



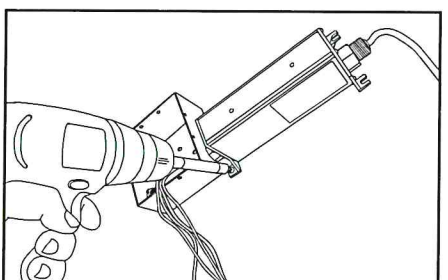
4. Insert SloanLED PrismBEAM into lampholders. **For horizontal installations, support center for lengths 96" and above.** Tip: For easy wire connections, install all lamps in same direction with wire leads on same end.



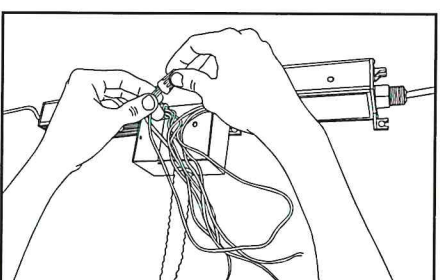
5. **Connections:** Product may be connected in series or parallel. End wires should be capped and not tied back to power supply. (NOTE: All connections must be RED STRIPE-TO-RED STRIPE [+] and WHITE-TO-WHITE [-]).



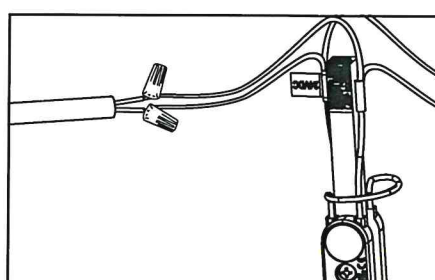
6. **Mount power supply:** Identify primary wires, secondary wires, and location of mounting tabs.



7. Units may be mounted in any orientation using mounting tabs.



8. **Connect primary: CAUTION!** Have a licensed electrician connect primary.



9. **Connect to power supply:** Using UL Listed electrical connectors, connect to power supply. **Do not connect power to lamp sockets.** (NOTE: Power supply to luminaire connections must be RED STRIPE-TO-RED [+] and WHITE-TO-BLACK [-]).

# SloanLED PrismBEAM

PAGE 3 OF 3

## Installation Guide for 701972-(C)WP(D,S)(X)1

### Layout Guidelines

Mount SloanLED PrismBEAM in center of returns in double-sided cabinets. For best results, lamps should be  $\geq 8$  in ( $\geq 203$  mm) from face of sign. It's recommended to test LED density in a sample cabinet to evaluate brightness, uniformity, and color. If you have questions or require assistance in testing, please contact your SloanLED Customer Service Representative.

**WARNING:** Use SloanLED PrismBEAM Double-sided with 100 W 24 VDC Power Supply only.

### 100 W 24 VDC Power Supply Capacity Table for SloanLED PrismBEAM Double-sided (or any combination not to exceed max. output of power supply)

| Part Number                                    | Input                 |               | Output       |                | Maximum Lamps per Power Supply |                |                |                |                |                |                |                |                |                |                |                 |                 |                 |
|--|-----------------------|---------------|--------------|----------------|--------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|-----------------|-----------------|
|  | Nominal Input Voltage | Input Current | Power Output | Output Current | 18 in (0.46 m)                 | 24 in (0.61 m) | 30 in (0.76 m) | 36 in (0.91 m) | 42 in (1.07 m) | 48 in (1.22 m) | 60 in (1.52 m) | 64 in (1.63 m) | 72 in (1.83 m) | 84 in (2.13 m) | 96 in (2.44 m) | 108 in (2.74 m) | 117 in (2.97 m) | 120 in (3.05 m) |
| 701895-24C                                     | 100-240 V             | 1.4 A         | 100 W        | 4.2 A          | 13                             | 9              | 9              | 6              | 5              | 4              | 4              | 3              | 3              | 2              | 2              | 2               | 2               | 2               |
| Capacities based on 90% of power supply output |                       |               |              |                | Power used per lamp in Watts:  |                |                |                |                |                |                |                |                |                |                |                 |                 |                 |
|  |                       |               |              |                | 6.7 W                          | 10.1 W         | 10.1 W         | 13.4 W         | 16.8 W         | 20.2 W         | 23.5 W         | 26.9 W         | 30.2 W         | 33.6 W         | 40.3 W         | 43.7 W          | 47.0 W          | 47.0 W          |

**NOTE:** Each 24 V circuit must be limited to 4.2 A (100 W) or less. For North American installations, a power supply that meets NEC Class 2 specifications is required. Power Supply Capacity calculations for field cut lengths use 1.68 watts per module.

**WARNING:** Use SloanLED PrismBEAM Single-sided with 60 W 12 VDC Power Supply only.

### 60 W 12 VDC Power Supply Capacity Table for SloanLED PrismBEAM Single-sided

|  |                | Input                 |               | Output                        |                | Maximum Lamps per Power Supply |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                    |                    |                    |
|--|----------------|-----------------------|---------------|-------------------------------|----------------|--------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|--------------------|--------------------|--------------------|
| Power Supply                                   | Part Number    | Nominal Input Voltage | Input Current | Power Output                  | Output Current | 18 in<br>(0.46 m)              | 24 in<br>(0.61 m) | 30 in<br>(0.76 m) | 36 in<br>(0.91 m) | 42 in<br>(1.07 m) | 48 in<br>(1.22 m) | 60 in<br>(1.52 m) | 64 in<br>(1.63 m) | 72 in<br>(1.83 m) | 84 in<br>(2.13 m) | 96 in<br>(2.44 m) | 108 in<br>(2.74 m) | 117 in<br>(2.97 m) | 120 in<br>(3.05 m) |
| 60C1 60 W                                      | 701507-60C1    | 100-277 V             | 0.80 A        | 60 W                          | 4.5 A          | 16                             | 10                | 10                | 8                 | 6                 | 5                 | 4                 | 4                 | 3                 | 3                 | 2                 | 2                  | 2                  | 2                  |
| 60W1 60 W                                      | 701507-60W1    | 100-240 V             | 0.85 A        |                               |                |                                |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                    |                    |                    |
| 60W2 60 W                                      | 701507-60W2    | 100-277 V             | 0.80 A        |                               |                |                                |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                    |                    |                    |
| MODW(E) 60 W                                   | 701507-MODW(E) | 100-240 V             | 1.00 A        |                               |                |                                |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                    |                    |                    |
| MOD277 60 W                                    | 701507-MOD277  | 277-347 V             | 0.50 A        |                               |                |                                |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                    |                    |                    |
| 120D1 120 W                                    | 701507-120D1   | 100-277 V             | 1.70 A        | 2 × 60 W                      | 2 × 4.5 A      | 2 × 16                         | 2 × 10            | 2 × 10            | 2 × 8             | 2 × 6             | 2 × 5             | 2 × 4             | 2 × 4             | 2 × 3             | 2 × 3             | 2 × 2             | 2 × 2              | 2 × 2              | 2 × 2              |
| Capacities based on 90% of power supply output |                |                       |               | Power used per lamp in Watts: |                | 3.4 W                          | 5.0 W             | 5.0 W             | 6.7 W             | 8.4 W             | 10.1 W            | 11.8 W            | 13.4 W            | 15.1 W            | 16.8 W            | 20.2 W            | 21.8 W             | 23.5 W             | 23.5 W             |

**NOTE:** Each 12 V circuit must be limited to 4.5 A (60 W) or less. For North American installations, a power supply that meets NEC Class 2 specifications is required. Power Supply Capacity calculations for field cut lengths use 1.68 watts per module.

### Extension of Power Supply Leads

If longer lead wire from power supply to LED product is needed, an extension can be used. Extension should be kept as short as possible, i.e., under 15 ft use 18 AWG UL Listed PLTC (4.6 m for 1 mm<sup>2</sup> PLTC) or under 50 ft use 14 AWG UL Listed PLTC (15.2 m for 2.5 mm<sup>2</sup> PLTC).

### Troubleshooting

|   |   |
|---|---|
| <b>Entire box/cabinet or product does not light after complete installation.</b>                | Check connection from power supply lead to first lamp. Make sure polarity of connections made at power supply lead and any jumper wire is correct. Power supply outputs should be connected RED-TO-RED (+) and BLACK-TO-WHITE (-).  |
| <b>Still does not light.</b>  | Check output voltage of power supply using a voltmeter. Output voltage should be DC 24.0 V $\pm$ 0.5 V (double-sided) or DC 12.0 V $\pm$ 0.5 V (single-sided). If there is no output voltage, have a licensed electrician check input voltage. Make sure power supply is connected correctly and getting primary power. If power supply is connected properly and getting primary power and there is still no output voltage, try a different power supply. |
| <b>Still does not light.</b>  | If power supply is getting primary power and lamps don't light, there may be a short in secondary wiring. Check all connections and cap all loose wires.  |
| <b>The beginning of a lamp lights, but entire lamp does not light or lights intermittently.</b> | Primary cause of a portion of a lamp not lighting or lighting intermittently is a bad connection or reverse polarity connection between lamps that light and lamps that don't light. Check this connection.   |
| <b>One lamp does not light, but all others in cabinet light.</b>                                | SloanLED PrismBEAM is designed so if one lamp fails, it will not cause entire box/cabinet to go out. If one lamp does not light, but all others do, replace this lamp with a new one.   |



US patents and foreign patents pending

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